

IN THE CLAIMS

1. (Currently amended) A controller for a vehicular system, the controller comprising:

a torque-assist function responsive to a signal indicative of an input device torque for providing a torque-assist command to an electric motor; and

a steering-pull compensator responsive to a signal indicative of a valid detection cycle for modifying said torque-assist command to the electric motor by an offset corresponding to a detected steering-pull condition.

2. (Previously presented) A controller as defined in Claim 1, further comprising:

at least one summing function in signal communication with said torque-assist function and with said steering-pull compensator for summing the provided torque-assist command with the offset corresponding to a detected input device pull condition.

3. (Previously presented) A controller as defined in Claim 1, said steering-pull compensator comprising:

a filter responsive to the signal indicative of input device torque.

4. (Previously presented) A controller as defined in Claim 1, said steering-pull compensator comprising:

a condition processing block for determining if the vehicle is being driven in a substantially straight path.

5. (Previously presented) A controller as defined in Claim 1, said steering-pull compensator comprising:

an enable block for validating the detected steering-pull condition.

6. (Previously presented) A controller as defined in Claim 5, said steering-pull compensator comprising:

an enabling switch for receiving a binary control signal from said enable block.

7. (Previously presented) A controller for a vehicular system, the controller comprising:

a torque-assist function responsive to a signal indicative of an input device torque for providing a torque-assist command to a motor; and

a steering-pull compensator responsive to a signal indicative of a valid detection cycle for modifying said torque-assist command to the motor by an offset corresponding to a detected steering-pull, said steering-pull compensator comprising

a function block for preventing an offset correction corresponding to a detected steering-pull condition from exceeding a desired value.

8. (Previously presented) A controller as defined in Claim 6, said steering-pull compensator further comprising:

a delay unit for delaying the offset correction until the enabling switch transitions off-to-on.

9. (Previously presented) A controller as defined in Claim 8, said steering-pull compensator further comprising:

a summing function for adding the delayed offset correction to a previous offset value.

10. (Previously presented) A controller as defined in Claim 1, said steering-pull compensator comprising:

a memory switch configured such that an output signal there from is also received as an input at an input terminal.

11. (Previously presented) A controller as defined in Claim 2, said steering-pull compensator comprising:

a function block for providing a signal to a non-inverting input of the summing function.

12. (Currently amended) A method for controlling a vehicular system, the method comprising:

receiving a signal indicative of a torque applied to an input device;

providing a torque-assist command to an electric motor in response to the received torque signal;

detecting an enabling signal;

quantifying a steering-pull condition in response to the received and detected signals; and

modifying the torque-assist command to the electric motor by an offset corresponding to the quantified steering-pull condition.

13. (Previously presented) A method for controlling a vehicular system, the method comprising:

receiving a signal indicative of a torque applied to an input device;

providing a torque-assist command to a motor in response to the received torque signal;

detecting an enabling signal;

quantifying a steering-pull condition in response to the received and detected signals;

modifying the torque-assist command to the motor by an offset corresponding to the quantified steering-pull condition;

monitoring a vehicle ignition signal;

recognizing an off-to-on transition of the monitored ignition signal;
disabling the enabling signal in response to the recognized transition;
determining whether at least one of the duration of the monitored ignition signal exceeds a threshold duration value and the distance traveled by the vehicle exceeds a threshold distance value; and
enabling the enabling signal in correspondence with said determining when the duration exceeds the threshold.

14. (Original) A method as defined in Claim 13, further comprising:
recognizing a cycle as an off-to-on transition of the monitored ignition signal followed by an on-to-off transition of the monitored ignition signal; and
storing a steering-pull compensation value corresponding to the quantified condition into a memory location upon detecting of an enabled enabling signal for a recognized cycle.

15. (Original) A method as defined in Claim 14, further comprising:
adding the stored steering-pull compensation value to the provided torque-assist command at the beginning of a cycle in accordance with the steering-pull compensation value stored in a previous cycle.

16. (Original) A method as defined in Claim 14, further comprising:
adding the stored steering-pull compensation value to the provided torque-assist command at the beginning of a cycle in accordance with the steering-pull compensation values stored in a plurality of previous cycles.

17. (Original) A method as defined in Claim 14, further comprising:
retrieving at least one steering-pull compensation value stored in a previous cycle for analysis during vehicle service.

18. (Original) A method as defined in Claim 14, further comprising:
writing a modified steering-pull compensation value corresponding to an adjusted vehicular mechanical specification into a memory location following corrective vehicle service.

19. (Original) A method as defined in Claim 14, further comprising:
writing a zero steering-pull compensation value into a memory location following vehicle service.

20. (Currently amended) A controller for a vehicular system, the controller comprising:
means for receiving a signal indicative of an input device torque;
means for providing a torque-assist command to an electric motor responsive to said receiving means;
means for detecting an enabling signal; and
means for modifying said torque-assist command to the electric motor by an offset corresponding to a detected input device pull condition responsive to said detecting means.

21. (Original) A method as defined in Claim 13 wherein the threshold duration value is about five minutes.

22. (Original) A method as defined in Claim 13 wherein the threshold distance value is about three miles.

23. (Currently amended) A vehicular system comprising:
an input device;
a controller in signal communication with said input device;

an electric motor in signal communication with said controller;
said controller comprising:
a torque-assist function responsive to a signal indicative of an input device torque for providing a torque-assist command to said electric motor; and
a steering-pull compensator responsive to a signal indicative of a valid detection cycle for modifying said torque-assist command to said electric motor by an offset corresponding to a detected steering-pull condition.

24. (Previously presented) A vehicular system as defined in Claim 23, said controller further comprising:

at least one summing function in signal communication with said torque-assist function and with said steering-pull compensator for summing the provided torque-assist command with the offset corresponding to a detected input device pull condition.

25. (Previously presented) A vehicular system as defined in 23, said steering-pull compensator comprising:

a filter responsive to the signal indicative of input device torque.

26. (Previously presented) A vehicular system as defined in Claim 23, said steering-pull compensator comprising:

a condition processing block for determining if the vehicle is being driven in a substantially straight path.

27. (Previously presented) A vehicular system as defined in Claim 23, said steering-pull compensator comprising:

an enable block for validating the detected steering-pull condition.

28. (Previously presented) A vehicular system as defined in Claim 27, said steering-pull compensator comprising:

an enabling switch for receiving a binary control signal from said enable block.

29. (Previously presented) A vehicular system comprising:

an input device;

a controller in signal communication with said input device;

a motor in signal communication with said controller;

said controller comprising:

a torque-assist function responsive to a signal indicative of an input device torque for providing a torque-assist command to said motor; and

a steering-pull compensator responsive to a signal indicative of a valid detection cycle for modifying said torque-assist command to said motor by an offset corresponding to a detected steering-pull condition, said steering-pull compensator comprising

a function block for preventing an offset correction corresponding to a detected steering-pull condition from exceeding a desired value.

30. (Previously presented) A vehicular system as defined in Claim 28, said steering-pull compensator further comprising:

a delay unit for delaying the offset correction until the enabling switch transitions off-to-on.

31. (Previously presented) A vehicular system as defined in Claim 30, said steering-pull compensator further comprising:

a summing function for adding the delayed offset correction to a previous offset value.

32. (Previously presented) A vehicular system as defined in Claim 23, said steering-pull compensator comprising:

a memory switch for receiving its own output signal at its primary input terminal.

33. (Previously presented) A vehicular system as defined in Claim 24, said steering-pull compensator comprising:

a function block for providing a signal to a non-inverting input of the summing function.

34. (Cancelled).